

Ocean temperatures come in for considerable space. Concerning these the author remarks: "Actually a small influence has been traced,³ but it represents only a very small fraction of the variability of our weather. The fallacy in the reasoning is that the Gulf Stream is not only an important factor of our climate but is also an extremely stable factor, and the differences from year to year in the amount of heat which it carries into the North Atlantic are very small compared with the average amount of heat which it brings in any one year."

The method of extension of the synoptic chart also receives some attention; it is pointed out that the study of the general tendencies of the pressure distribution revealed by the monthly pressure charts may at times assist the forecaster from daily synoptic charts, especially when he is considering the "further outlook" and so lead to the more frequent issue of what may be termed "medium-range" forecasts, perhaps the most useful form of all for the general public.—A. J. H.

Abandonment of telegraph circuit system in the Weather Bureau.—The plan of collecting weather reports inaugurated in 1871 was formally abandoned and a new system adopted on April 1, 1928.

In the new system each Weather Bureau station files its report in the local telegraph office for transmission over the ordinary commercial lines to either one or the other of the two general receiving and distributing points—Chicago and New York. These offices of the telegraph company maintain a special organization for the purpose of quickly duplicating the original reports as they come in from the individual stations. Thus if a report is to be sent to 140 stations in addition to the two distributing centers, that number of duplicates are made by a stencil process and the duplicates are delivered to the wires over which they must pass to their destination.

³ The effect of fluctuations of the Gulf Stream in the distribution of pressure over the eastern North Atlantic and western Europe. London Meteorological Office Geophys. Mem. 4, No. 34.

Under the old system a telegraph operator could send or receive a single message one way at a time and he utilized the entire capacity of the wire. The use of automatic apparatus that has been developed in recent years permits the automatic utilization of 3 or 4 channels each way on a single wire, thus greatly increasing the amount of traffic that can be carried on a single wire. The new system enables the bureau to collect and distribute its reports in a little less time than was consumed by the old system.

Symposium on light therapy.—The English journal, *Nature*, for April 21, 1928, contains a supplement of 18 pages devoted to various aspects of "light therapy."

Prof. F. L. Hopwood deals with the physical basis of light used for therapeutic purposes; Prof. Leonard Hill, with the biological action of ultra-violet rays; Dr. W. Kerr Russell, with the physiological action of ultra-violet radiation and its use in the home; Prof. S. Russ, with ultra-violet radiation for domestic use.

Mr. P. R. Peacock treats of medical aspects of "artificial sunlight" in private houses; Mr. C. T. Angus, of lamps for light baths; Mr. B. D. H. Watters of selection of ultra-violet lamps for home use, and, finally, Dr. L. C. Martin discusses the ultra-violet transmission of transparent materials.

April weather in the United States 50 years ago.—April, 1878, was the fourth consecutive warm month in the United States, and like the preceding month it was characterized by exceptionally low pressure in the Missouri and Upper Mississippi Valleys and the Lake region, averaging as much as two-tenths of an inch below the normal. Pressure was also low in Pacific Coast States and at St. Michaels, Alaska. It was high in Greenland and the Arctic regions of northern Europe. Two severe storms crossed the country attended by heavy snow in northern Rocky Mountain States and high winds in the Lake region. The rainfall of the month was generally ample for all needs.—A. J. H.

BIBLIOGRAPHY

C. FITZHUGH TALMAN, in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

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... Problems of polar research; a series of papers by thirty-one authors. New York. 1928. v, 479 p. illus. maps. diags. 26 cm. (*Amer. geogr. soc. Spec. pub. no. 7.*) [Contains meteorological articles.]

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Report on the control of floods in northern New York rivers. To a committee representing the mayors of the cities and villages of northern New York. Watertown. [1928.] 55 p. illus. 23 cm.

De Geer, Gerard.

Tracks of the sun. p. 858-863. illus. 28 cm. [Cutting from *Forum*, v. 78, no. 6, Dec., 1927.]

Douglass, A[ndrew] E[llicott].

Climatic cycles and tree growth. v. 2. A study of the annual rings of trees in relation to climate and solar activity. Washington. 1928. vii, 166 p. figs. plates. 25½ cm. (*Carnegie inst. of Wash. Pub. no. 289*, v. 2.)

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Rainfall and temperature of Cuba. Washington. 1925. 32 p. diags. 26½ cm. (With the cooperation of the National observatory of Cuba.) (*Trop. plant res. found. Bull. no. 1.*)

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Jardí, Ramón.

Estudis de la intensitat de la pluja a Barcelona. Barcelona. 1927. p. 51-76. figs. 28½ cm. (Institut d'estudis Catalans. Sec. de ciències. Mem. v. 1, fasc. 2.)

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SOLAR OBSERVATIONS

SOLAR AND SKY RADIATION MEASUREMENTS DURING APRIL, 1928

By HERBERT H. KIMBALL, Solar Radiation Investigations

For a description of instruments and exposures and an account of the method of obtaining and reducing the measurements, the reader is referred to the Review for January, 1924, 52: 42, January, 1925, 53: 29, and July, 1925, 53: 318.

Table 1 shows that solar radiation intensities averaged slightly above the normal values for April at Lincoln, Nebr., and close to normal at Washington, D. C., and Madison, Wis. At Washington an intensity of 1.50 gram-calories per minute per square centimeter, measured at noon on the 25th, is nearly equal to the absolute maximum for April of 1.51.

Table 2 shows a slight excess in the total solar radiation received on a horizontal surface directly from the sun and diffusely from the sky at Madison and Lincoln, and a slight deficiency at Washington as compared with the April normals for these stations.

Skylight polarization measurements at Washington made on two days give a mean of 57 per cent, with a maximum of 59 per cent on the 25th. These are close to the corresponding normal values for Washington for April. At Madison polarization measurements obtained on three days give a mean of 67 per cent, with a maximum of 72 per cent on the 27th. These are above the corresponding normal values for Madison for April.

TABLE 1.—Solar radiation intensities during April, 1928

[Gram-calories per minute per square centimeter of normal surface]

WASHINGTON, D. C.													
Date		Sun's zenith distance										Local mean solar time	
		8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°		
		75th mer. time	Air mass										
			A. M.					P. M.					
e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.			
Apr. 2	mm.	4.95				0.92					3.99		
5		9.83				0.99					9.14		
12		5.36				1.09					5.79		
13		4.75		0.90	1.01	1.17	1.49				3.30		
18		4.37	0.66	0.80	0.97	1.18	1.45	1.04	0.78	0.59	3.00		
25		4.17				1.08	1.53	1.20	1.00	0.85	0.64		
26		3.81	0.60	0.74	0.92	1.12					3.99		
Means		(0.63)	0.81	0.97	1.08	1.49	(1.12)	(0.89)	(0.72)	(0.64)			
Departures		-0.08	+0.05	+0.07	±0.00		+0.02	-0.02	-0.03	-0.02			
MADISON, WIS.													
Apr. 3		6.27				0.97					7.57		
9		3.00			1.15						1.52		
12		3.99				1.28	1.56				3.30		
17		3.45			0.98	1.14	1.48				3.63		
23		4.17				1.30					3.45		
27		3.63				1.31	1.48				3.45		
28		3.45				1.31					2.49		
Means					(1.06)	1.22	1.15						
Departures					-0.03	±0.00							
LINCOLN, NEBR.													
Apr. 9		1.60		0.99	1.11	1.30	1.52	1.20	1.06	0.93	0.82	3.81	
19		2.36						1.18	0.93			1.96	
22		4.57					1.51	1.25	1.07	0.91	0.81	2.74	
23		5.36				1.23	1.46					4.17	
24		3.45			1.07	1.21	1.37	1.23	1.05	0.93	0.79	2.49	
25		3.30				1.18	1.40					3.15	
27		4.17	0.86	0.97	1.06	1.25	1.48	1.21	0.99	0.82	0.66	2.49	
28		3.45			0.84	1.01	1.14	1.28				4.57	
Means		(0.86)	0.93	1.06	1.22	1.43	1.21	1.02	0.90	0.77			
Departures		+0.12	+0.09	+0.07	+0.01		+0.03	+0.03	+0.05	+0.05			

¹ Extrapolated.